

Ref 3

Case #: JP59-024704U
Ref #: 9607 (JP)

(19) Japanese Patent
Office (JP)

(12) Publication of
Unexamined Utility
Model Application
(U)

(11) Disclosure Number:
Unexamined Application 59-024704

(43) Date of Disclosure: February 16, 1984

(51) Int. Cl. ³	Identification Code	Internal Reference No.
A 41 B 13/02		7149-3B
G 01 N 25/56		7159-2G

Examination Request Status: Not Yet Requested. No. of Inventions:, (pages total)

(54) Title of the Invention: Back Sheet for Disposable Diaper

(21) Filing Number: Patent Application No. 57-118289

(22) Date of Application: August 5, 1982

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Specification

1. Title of the Invention Back Sheet for Disposable Diaper

2. Scope of the Utility Model Claims

A back sheet for a disposable diaper having a pattern in at least one section, the pattern having a section that changes color, develops color or loses color as a result of contact with water and/or urine, and a colored section that does not change color as a result of contact with water or urine.

3. [Detailed Description of the Invention]

The present invention relates to a back sheet for a disposable diaper. More particularly, the present invention relates to a back sheet for a disposable diaper provided with a pattern having the function of notification that urine has been released when using the disposable diaper.

In recent years, the convenience of disposable diapers has resulted in their increasing use. Furthermore, there has been a conspicuous improvement in the materials used in disposable diapers. Disposable diapers using materials having superior water absorbent characteristics, immediately absorbing urine, and enabling the skin to remain dry continuously are now mainstream. As a result, even when an infant excretes urine, since the skin is always dry, the infant does not announce the fact by crying, thereby resulting in a situation in which the diaper fails to be changed. Since it is convenient to be notified of urine excretion from an outer side, there have been various techniques suggested for that purpose. Those techniques include products which develop a color in the presence of water or urine, products using a pH indicating substance, and products using water-based colorants dissolving in water. However, since these techniques have a main purpose of notifying the user of urine excretion, the external appearance of a disposable diaper is merely a transparent back sheet, which is lacking in aesthetic qualities.

In view of the above situation, the present inventors examined disposable diapers with an improved external appearance which could notify of urine excretion, and realized that the present invention could be completed by improving the back sheet of the disposable diaper.

In other words, the present invention provides a back sheet for a disposable diaper having a pattern in at least one section, the pattern having a section that changes color, develops color, or loses color as a result of contact with water and/or urine, and a colored section that does not change color as a result of contact with water and urine.

The present invention will be described below making reference to the figures.

Fig. 1 and Fig. 2 are sectional figures schematically showing a patterned section of a back sheet of a disposable diaper according to the present invention.

Fig. 1 shows a product in which a section 1 that changes color, develops color or loses color as a result of contact with water and/or urine (hereafter “coloring section”) and a colored section 2 that does not change color as a result of contact with water and urine (hereafter “colored section”) is provided on both sides or one side of a transparent or semi-transparent plastic sheet 3. Fig. 2 shows a product provided with the coloring section 1 and the colored section 2 on respective faces of the plastic sheet 3. The coloring section 2 must be provided on the whole surface of one face of the plastic sheet 3. However the colored section is not always necessary on one face of the plastic sheet 3 and may be provided on both faces contained in the plastic sheet 3.

The pattern is an outline of a star, for example, formed into the colored section 2. Various configurations are possible and a coloring section 1 may be provided in that section (Fig. 2) or a coloring section 1 and colored section 2 may be divided in a section like the shell of a snail (Fig. 3). It is possible to combine various coloring sections 1 and colored sections 2 into a pattern related to flowers, animals or a children’s story.

In this manner, use of a back sheet for a disposable diaper having a pattern with a coloring section 1 and colored section 2 improves the external appearance of the disposable diaper. Since the pattern is familiar and has a colorful external appearance, persons seeing the disposable diaper will not feel uncomfortable.

Furthermore, the coloring effect as a result of urine is convenient for the immediate notification of urine excretion.

Furthermore, although the use of a section coloring as a result of urine has conventionally been limited to development of color, it is possible to use any coloring section (as long as there is no adverse effect on the skin), and therefore the pattern can be extremely colorful.

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Although any conventionally known object may be used in the coloring section caused by urine, it is preferred to use various colors and use a method of developing color by a reduction in optical scattering as a result of moistening.

The plastic sheet used in the back sheet of a disposable diaper according to the present invention may use a variety of plastic films including polyethylene, polypropylene, polyvinyl chloride, polyester and nylon.

The back sheet of a disposable sheet according to the present invention uses a coloring section that develops towards the urine absorbent material. Furthermore, a moisture detection device may also be manufactured by attaching a patterned section onto a suitable liquid absorbing material.

The pattern may be provided on only a section or may be provided over the entire surface of the back sheet of the disposable diaper.

[Brief Description of the Drawings]

Fig. 1 and Fig. 2 a sectional view of a patterned section, Fig. 3 and Fig. 4 are examples of patterns.

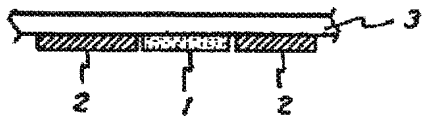
- 1: COLORING SECTION
- 2: COLORED SECTION
- 3: PLASTIC SHEET

Applicant for the Utility Model: Mitsui Toatsu Chemicals Inc.

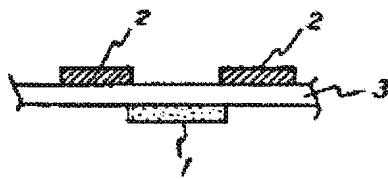
Figures

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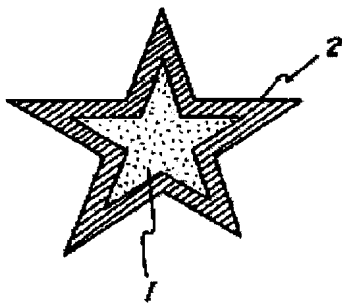
[FIG. 1]



[FIG. 2]



[FIG. 3]



[FIG. 4]

